## REMARKS

Reconsideration of this application, as amended, is respectfully requested.

THE CLAIMS

Claims 1-3, 5-7 and 10-17 have been amended to more clearly recite the distinguishing features of the present invention. In particular, it is noted that claim 1 has been amended to recite that the correcting mechanism of the present invention corrects an optical path length of the optical path so as to be constant no matter which of the objective lenses is selectively placed on the optical path. Claims 1 and 14, moreover, have been amended to recite that the pre-chirp compensator provides the pulse laser beam with a certain amount of pre-chirp compensation, and that the certain amount of pre-chirp compensation is set to prevent a pulse width of the pulse laser beam from widening due to a wavelength range of a pulse of the pulse laser beam when the pulse laser beam passes through the optical path whose optical path length is kept constant. And claim 17 has been amended to overcome the rejection thereof under 35 USC 112, second paragraph.

In addition, new claims 18-21 have been added to recite further features of the present invention disclosed in the specification and drawings. In particular, it is pointed out

that new claims 18 and 19 are supported by the disclosure in Fig. 6 and the corresponding description in the paragraph bridging pages 21 and 22 of the specification.

Still further, claims 4, 8 and 9 have been canceled, without prejudice.

It is respectfully submitted that no new matter has been added, and that all of the pending amended and new claims are in full compliance with the requirements of 35 USC 112, second paragraph. Accordingly, it is respectfully requested that the amended and new claims be approved and entered, and that the rejection under 35 USC 112, second paragraph be withdrawn.

THE PRIOR ART REJECTIONS

Claims 1-17 were all rejected under 35 USC 103 as being obvious in view of various combinations of USP 5,862,287 ("Stock et al"), the G.J. Brakenhoff et al publication cited by the Applicant ("Brakenhoff et al"), USP 5,034,613 ("Denk et al") and/or USP 6,169,289 ("White et al).

These rejections, however, are respectfully traversed with respect to amended claims 1-3, 5-7 and 10-17 as well as with respect to new claims 18-21.

According to the microscope of the present invention as recited in each of amended independent claims 1, 14 and new independent claims 18-20, a correcting mechanism is provided for

correcting an optical path length of the optical path so as to be constant (no matter which of the objective lenses is selectively placed on the optical path). In addition, the pre-chirp compensator is arranged to provide a pulse laser beam with a certain amount of pre-chirp compensation which is set to prevent a pulse width of the pulse laser beam from widening due to a wavelength range of a pulse of the pulse laser beam when the pulse laser beam passes through the optical path whose optical path length is kept constant.

In other words, according to the structure of the claimed present invention, the pre-chirp compensator is fixedly set in advance to have a constant set value (a set value of pre-chirp compensation). And when the objective lenses (or optical member as recited in amended claim 14) is switched, only adjustment of the correcting mechanism, (i.e., switching or adjustment of the at least one optical correcting element) is performed to cause the optical path length from the laser beam source to the sample to be constant. With this arrangement, even when the objective lenses (or optical member) is switched, the sample is irradiated with the pulse laser beam with an optimum pulse width, without changing the set value of the pre-chirp compensator.

Two of the cited references, namely Stock et al and Brakenhoff et al, show that a technique of using a pre-chirp compensator for a laser beam and a technique of using an optical

correcting element to cause an optical path length to be constant are known. And the other two cited references, namely Denk et al and White et al, disclose multiphoton excitation.

It is respectfully submitted, however, that these four references, taken singly or in combination, do not disclose, teach or suggest the above described patentably distinguishing combination of structural features of the present invention as recited in each of amended independent claims 1 and 14 and new independent claims 18-20. Namely, it is respectfully submitted that these four references, taken singly or in combination, do not disclose, teach or suggest the structural arrangement of the objective lenses (or optical member), the correcting mechanism and the pre-chirp compensator of the claimed present invention which enables a sample to always be irradiated with a pulse laser beam with an optimum pulse width, without changing the set value of the pre-chirp compensator, even when the objective lenses (or optical member) is switched.

It is noted that on page 4 of the Office Action, the Examiner has asserted that Stock et al discloses in column 3 and 4 thereof a relationship between objective lenses and optical correcting elements. It is respectfully submitted, however, that this portion of Stock et al merely discloses that an additional optical member can be used to adjust an optical path length, where optical fibers have different lengths.

In view of the foregoing, it is respectfully submitted that the present invention as recited in each of amended independent claims 1 and 14 and new independent claims 18-20, as well as all of the claims respectively depending therefrom, patentably distinguishes over any combination of Stock et al, Brakenhoff et al, Denk et al and White et al under 35 USC 103.

CLAIM FEE

The application was filed with 17 claims, 2 of which were independent. The application, as amended, now contains a total of 18 claims, 5 of which are independent.

Accordingly, a check in the amount of $168.00 is enclosed to cover the Patent Office fee for 2 additional independent claims.

In addition, authorization is hereby given to charge any additional fees which may be determined to be required, or to credit any overpayment, to Account No. 06-1378.

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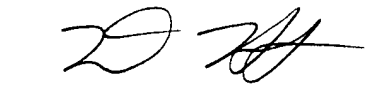
Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

Claims 1-3, 5-7 and 10-17 have been amended as follows:

1. (Amended) A multiphoton excitation scanning laser microscope, comprising:

(a) a station for placing a sample to be observed;

(b) a laser beam source for emitting a pulse laser beam for exciting said sample to cause the sample to emit a fluorescent light by multiphoton excitation phenomenon;

(c) a detector for detecting said fluorescent light; and

(d) an optical system for forming an optical path of said pulse laser beam for guiding said pulse laser beam from said laser beam source to said sample, said optical system including:

a pre-chirp compensator arranged on said optical path for [preventing a pulse width of said pulse laser beam from widening due to a wavelength range of the pulse when the pulse laser beam passes through the optical system] providing said pulse laser beam with a certain amount of pre-chirp compensation,

a plurality of objective lenses [capable of being] adapted to be selectively [arranged] placed on said optical path for collecting the pulse laser beam on the sample, and

a correcting mechanism [including optical correcting means] for correcting an optical path length of said optical path so as to [cause the pulse width of said pulse laser beam to] be constant [on a focal plane of said optical system in accordance

with respective optical path lengths of said objective lenses] no matter which of said objective lenses is selectively placed on said optical path,

wherein said correcting mechanism comprises at least one optical correcting element adapted to be selectively placed on said optical path in accordance with which of said objective lenses is selectively placed on said optical path, and

wherein said certain amount of pre-chirp compensation provided by said pre-chirp compensator is set to prevent a pulse width of said pulse laser beam from widening due to a wavelength range of a pulse of said pulse laser beam when said pulse laser beam passes through said optical path whose optical path length is kept constant.

2. (Amended) The microscope according to claim 1, further comprising an interlocking mechanism for causing operation of said correcting mechanism to be interlocked with switchover of said objective lenses.

3. (Amended) The microscope according to claim 1, wherein said at least one optical correcting [means] element is adapted to be arranged on said optical path [in] at a position where said pulse laser beam forms a parallel luminous flux and there is no change in [the] an angle of said luminous flux.

5. (Amended) The microscope according to claim [4] 1, wherein said correcting mechanism includes a rotor supporting said at least one optical correcting [elements] element.

6. (Amended) The microscope according to claim [4] 1, wherein said correcting mechanism includes a slider supporting said at least one optical correcting [elements] element.

7. (Amended) The microscope according to claim [4] 1, wherein said at least one optical correcting [elements] element and said objective lenses are supported by [the] a same supporting member and are moved together.

10. (Amended) The microscope according to claim 1, wherein said optical system further comprises a scanning mechanism for scanning said sample to be observed with said pulse laser beam.

11. (Amended) The microscope according to claim 10, wherein said scanning mechanism [is formed of] comprises a scanning optical unit for moving said pulse laser beam, and wherein said at least one optical correcting [means] element is adapted to be arranged on said optical path at a position between said scanning optical unit and said pre-chirp compensator.

12. (Amended) The microscope according to claim 1, wherein said optical system [further includes a portion for forming] also

forms an optical path for guiding said fluorescent light to said detector.

13. (Amended) The microscope according to claim 1, further comprising an additional optical system and [a] detector for detecting [a transmitted] light of the pulse laser beam that is transmitted through the sample.

14. (Amended) A multiphoton excitation scanning laser microscope, comprising:

(a) a station for placing a sample to be observed;

(b) a laser beam source for emitting a pulse laser beam for exciting said sample to cause the sample to emit a fluorescent light by multiphoton excitation phenomenon;

(c) a detector for detecting said fluorescent light; and

(d) an optical system for forming an optical path of said pulse laser beam for guiding said pulse laser beam from said laser beam source to said sample, said optical system including:

a pre-chirp compensator arranged on said optical path for [preventing a pulse width of said pulse laser beam from widening due to a wavelength range of the pulse when the pulse laser beam passes through the optical system] providing said pulse laser beam with a certain amount of pre-chirp compensation,

an optical member adapted to be selectively [arranged] placed on said optical path, and

a correcting mechanism [including optical correcting means] for correcting an optical path length of said optical path so as to [cause the pulse width of said pulse laser beam to] be constant [on a focal plane of said optical system in accordance with an optical path length of said optical member],

wherein said correcting mechanism comprises at least one optical correcting element adapted to be selectively placed on said optical path in accordance with selective placement of said optical member, and

wherein said certain amount of pre-chirp compensation provided by said pre-chirp compensator is set to prevent a pulse width of said pulse laser beam from widening due to a wavelength range of a pulse of said pulse laser beam when said pulse laser beam passes through said optical path whose optical path length is kept constant.

15. (Amended) The microscope according to claim 14, wherein said optical member comprises a plurality of objective lenses [capable of being] adapted to be selectively [arranged] placed on said optical path for collecting the pulse laser beam on the sample.

16. (Amended) The microscope according to claim 14, wherein said optical member comprises a plurality of objective lenses [capable of being] adapted to be selectively [arranged]

placed on said optical path for collecting the pulse laser beam on the sample, and a flat optical element adapted to be selectively inserted between said pre-chirp compensator and said objective lenses.

17. (Amended) The microscope according to claim 16, wherein said optical element comprises [an optical element for] a Nomarski [observation of transmitted light] prism.